

**AMENDMENTS TO THE CLAIMS**

**Please add the following new claims:**

37. (new) A method for immobilizing a biomolecule to a surface comprising:
  - a. linking said biomolecule to an aromatic or aliphatic hydrazine producing a hydrazine containing biomolecule;
  - b. modifying said surface to comprise at least one aldehyde or ketone producing an aldehyde or ketone containing surface; and
  - c. contacting said hydrazine containing biomolecule with said aldehyde or ketone containing surface thereby immobilizing said biomolecule to said surface.
38. (new) A method for immobilizing a biomolecule to a surface comprising:
  - a. linking said biomolecule to an aldehyde or ketone producing an aldehyde or ketone containing biomolecule;
  - b. modifying said surface to comprise at least one aromatic or aliphatic hydrazine producing a hydrazine containing surface; and
  - c. contacting said aldehyde or ketone containing biomolecule with said hydrazine containing surface thereby immobilizing said biomolecule to said surface.
39. (new) A method for immobilizing a biomolecule to a surface comprising:

- a. linking said biomolecule to an aromatic or aliphatic oxyamine producing a oxyamine containing biomolecule;
- b. modifying said surface to comprise at least one aldehyde or ketone producing an aldehyde or ketone containing surface; and
- c. contacting said oxyamine containing biomolecule with said aldehyde or ketone containing surface thereby immobilizing said biomolecule to said surface.

40. (new) A method for immobilizing a biomolecule to a surface comprising:

- a. linking said biomolecule to an aldehyde or ketone producing an aldehyde or ketone containing biomolecule;
- b. modifying said surface to comprise at least one aromatic or aliphatic oxyamine producing an oxyamine containing surface; and
- c. contacting said aldehyde or ketone containing biomolecule with said oxyamine containing surface thereby immobilizing said biomolecule to said surface.

41. (new) A method according to claim 37 wherein said biomolecule is an oligonucleotide, a polynucleotide, a protein, a glycoprotein, a peptide or a carbohydrate.

42. (new) A method according to claim 38 wherein said biomolecule is an oligonucleotide, a polynucleotide, a protein, a glycoprotein, a peptide or a carbohydrate.

43. (new) A method according to claim 39 wherein said biomolecule is an oligonucleotide, a

polynucleotide, a protein, a glycoprotein, a peptide or a carbohydrate.

44. (new) A method according to claim 40 wherein said biomolecule is an oligonucleotide, a polynucleotide, a protein, a glycoprotein, a peptide or a carbohydrate.

45. (new) A method for immobilizing a biomolecule to a surface comprising:

a. binding at least one aromatic or aliphatic hydrazine to a polymer producing a hydrazine containing polymer;

b. linking an aldehyde or ketone to said biomolecule to produce an aldehyde or ketone containing biomolecule;

c. mixing said hydrazine containing polymer with said aldehyde or ketone containing biomolecule to produce a biomolecule/polymer conjugate;

d. modifying said surface to comprise at least one aldehyde or ketone producing an aldehyde or ketone containing surface; and

e. contacting said biomolecule/polymer conjugate with said aldehyde or ketone containing surface thereby immobilizing said biomolecule to said surface.

46. (new) A method for immobilizing a biomolecule to a surface comprising:

a. binding at least one aldehyde or ketone to a polymer producing a aldehyde or ketone containing polymer;

b. linking a hydrazine to said biomolecule to produce a hydrazine containing biomolecule;

- c. mixing said aldehyde or ketone containing polymer with said hydrazine containing biomolecule to produce a biomolecule/polymer conjugate;
- d. modifying said surface to comprise at least one hydrazine producing a hydrazine containing surface; and
- e. contacting said biomolecule/polymer conjugate with said hydrazine containing surface thereby immobilizing said biomolecule to said surface.

47. (new) A method for immobilizing a biomolecule to a surface comprising:

- a. binding at least one aromatic or aliphatic oxyamine to a polymer producing a oxyamine containing polymer;
- b. linking an aldehyde or ketone to said biomolecule to produce an aldehyde or ketone containing biomolecule;
- c. mixing said hydrazine containing polymer with said aldehyde or ketone containing biomolecule to produce a biomolecule/polymer conjugate;
- a. modifying said surface to comprise at least one aldehyde or ketone producing an aldehyde or ketone containing surface; and
- b. contacting said biomolecule/polymer conjugate with said aldehyde or ketone containing surface thereby immobilizing said biomolecule to said surface.

48. (new) A method for immobilizing a biomolecule to a surface comprising:

- a. binding at least one aldehyde or ketone to a polymer producing a aldehyde or ketone containing polymer;
- b. linking a oxyamine to said biomolecule to produce a oxyamine containing biomolecule;
- c. mixing said aldehyde or ketone containing polymer with said hydrazine containing biomolecule to produce a biomolecule/polymer conjugate;
- d. modifying said surface to comprise at least one oxyamine producing a oxyamine containing surface; and
- e. contacting said biomolecule/polymer conjugate with said hydrazine containing surface thereby immobilizing said biomolecule to said surface.

49. (new) A method according to claim 45 wherein said biomolecule is an oligonucleotide, a polynucleotide, a protein, a glycoprotein, a peptide or a carbohydrate.

50. (new) A method according to claim 46 wherein said biomolecule is an oligonucleotide, a polynucleotide, a protein, a glycoprotein, a peptide or a carbohydrate.

51. (new) A method according to claim 47 wherein said biomolecule is an oligonucleotide, a polynucleotide, a protein, a glycoprotein, a peptide or a carbohydrate.

52. (new) A method according to claim 48 wherein said biomolecule is an oligonucleotide, a polynucleotide, a protein, a glycoprotein, a peptide or a carbohydrate.

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53. A method according to claim 45 wherein the polymer is poly-L-lysine or poly-L-ornithine.
54. A method according to claim 46 wherein the polymer is poly-L-lysine or poly-L-ornithine.
55. A method according to claim 47 wherein the polymer is poly-L-lysine or poly-L-ornithine.
56. A method according to claim 48 wherein the polymer is poly-L-lysine or poly-L-ornithine.
57. A composition of the formula;

$$A-R_1-B-NHNH_2\bullet HX$$

wherein

A is lysine, poly-L-lysine, ornithine or poly-L-ornithine;

$$R_1 \text{ is } O(O=C)-(C_6H_{10})-CH_2- \text{ or } O(O=C)-C_5H_3N-;$$
B is a direct bond,  $-\text{NH}(\text{C}=\text{S})-$ ,  $-\text{NH}(\text{C}=\text{O})-$  or  $-(\text{C}=\text{O})-$ ; and

X is a halogen.

58. A composition of the formula;

$$A-R_1-B-ONH_2\bullet HX$$

wherein

A is lysine, poly-L-lysine, ornithine or poly-L-ornithine;

$$R_1 \text{ is } O(O=C)-(C_6H_{10})-CH_2- \text{ or } O(O=C)-C_5H_3N-;$$
B is a direct bond,  $-\text{NH}(\text{C}=\text{S})-$ ,  $-\text{NH}(\text{C}=\text{O})-$  or  $-(\text{C}=\text{O})-$ ; and

X is a halogen.

59. A composition of the formula;

$$Y-A-R_1-B-NHNH_2\bullet HX$$

Wherein

Y is a biomolecule;

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A is lysine, poly-L-lysine, ornithine or poly-L-ornithine;

R<sub>1</sub> is O(O=C)-(C<sub>6</sub>H<sub>10</sub>)-CH<sub>2</sub>- or O(O=C)-C<sub>5</sub>H<sub>3</sub>N-;

B is a direct bond, -NH(C=S)-, -NH(C=O)- or -(C=O)-; and

X is a halogen.

60. A composition of the formula;

Y-A-R<sub>1</sub>-B-ONH<sub>2</sub>•HX

wherein

Y is a biomolecule;

A is lysine, poly-L-lysine, ornithine or poly-L-ornithine;

R<sub>1</sub> is O(O=C)-(C<sub>6</sub>H<sub>10</sub>)-CH<sub>2</sub>- or O(O=C)-C<sub>5</sub>H<sub>3</sub>N-;

B is a direct bond, -NH(C=S)-, -NH(C=O)- or -(C=O)-; and

X is a halogen.

61. A composition according to claim 55 wherein said biomolecule is selected from the group consisting of an oligonucleotide, a polynucleotide, a protein, a glycoprotein, a peptide or a carbohydrate.

62. A composition according to claim 56 wherein said biomolecule is selected from the group consisting of an oligonucleotide, a polynucleotide, a protein, a glycoprotein, a peptide or a carbohydrate.

63. (new) A method for immobilizing an oligonucleotide comprising:

a. binding at least one aromatic or aliphatic hydrazine to a polymer producing a hydrazine containing polymer;

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- b. linking an aldehyde or ketone to an nucleotide primer to produce an aldehyde or ketone containing nucleotide primer;
- c. mixing said hydrazine containing polymer with said aldehyde or ketone containing nucleotide primer to produce a nucleotide primer/polymer conjugate;
- d. binding said oligonucleotide to said primers;
- e. amplifying said oligonucleotide by polymerase chain reaction or by reverse transcriptase reaction to produce a double stranded oligonucleotide/polymer complex;
- d. modifying said surface to comprise at least one aldehyde or ketone producing an aldehyde or ketone containing surface; and
- e. contacting said double stranded oligonucleotide/polymer complex with said aldehyde or ketone containing surface thereby immobilizing said biomolecule to said surface.

Please cancel claims 1-36 without prejudice.